

# **WORKS! 2011**

## **20 Years of Improvements In Waste Management**

by  
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Bureau of Waste Management



*KDHE Mission: As the state's environmental protection and public health agency, KDHE promotes responsible choices to protect the health and environment for all Kansans.*

## 1992 Was Not 1968

- Open dumps were replaced by sanitary landfills by the mid-1970s
- RCRA rules diverted hazardous waste to permitted facilities beginning in 1980
- Open burning had disappeared

*. . . but to most people, Waste Management still meant “Disposal” not “Reduction or Recovery”*

# **An Overview of Solid Waste Management in Kansas in 1992**

- One or more sanitary landfills in every county
- 130 C&D landfills mostly near larger cities
- Very little recycling (< 5% ?)
- No community composting
- Many waste tire piles
- HHW collection just beginning



























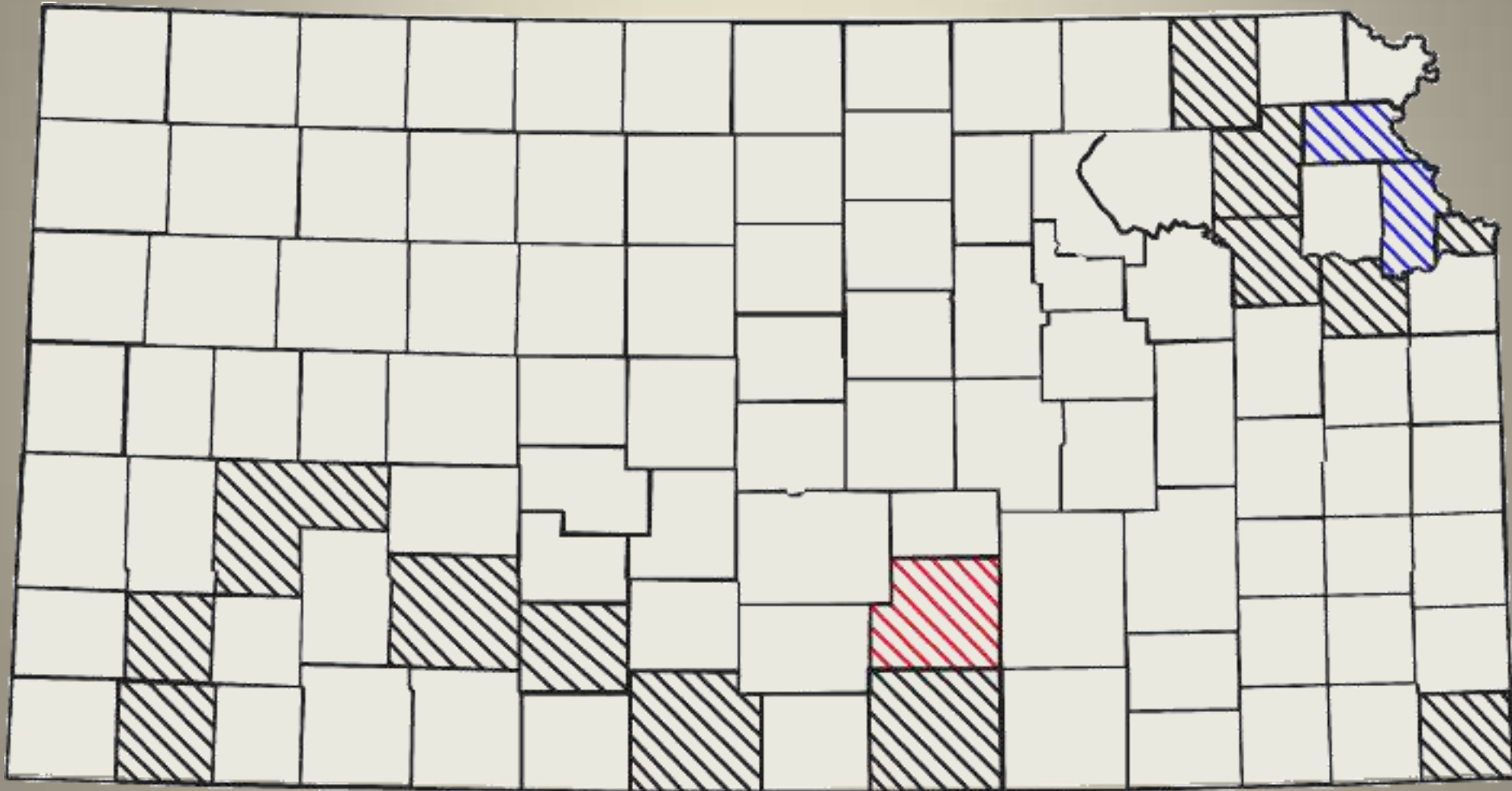








# Largest Waste Tire Piles in Early 1990s



Greater than 1,000,000



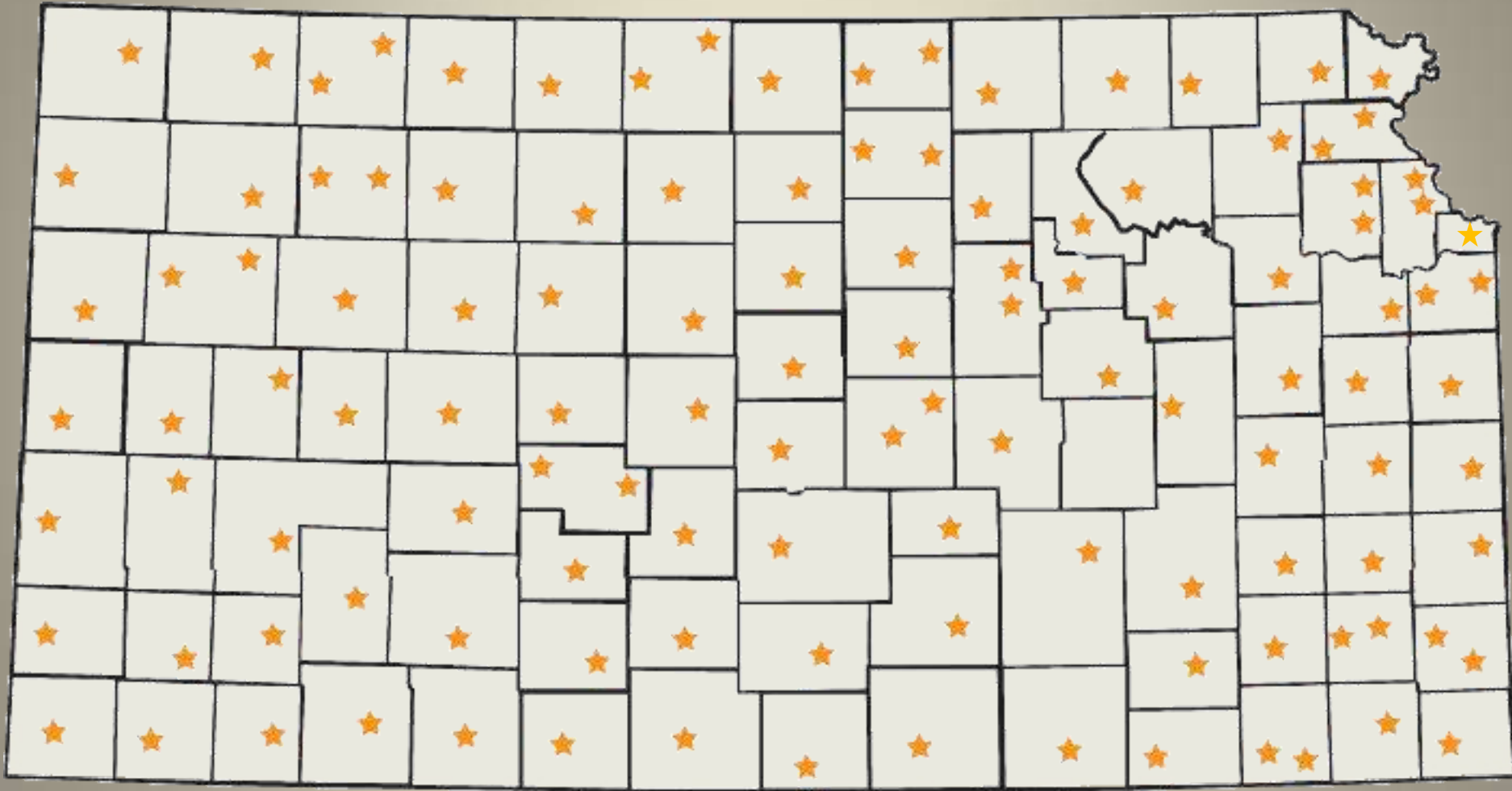
Greater than 500,000



Greater than 50,000

# Municipal Solid Waste Management

## The Sanitary Landfill Era

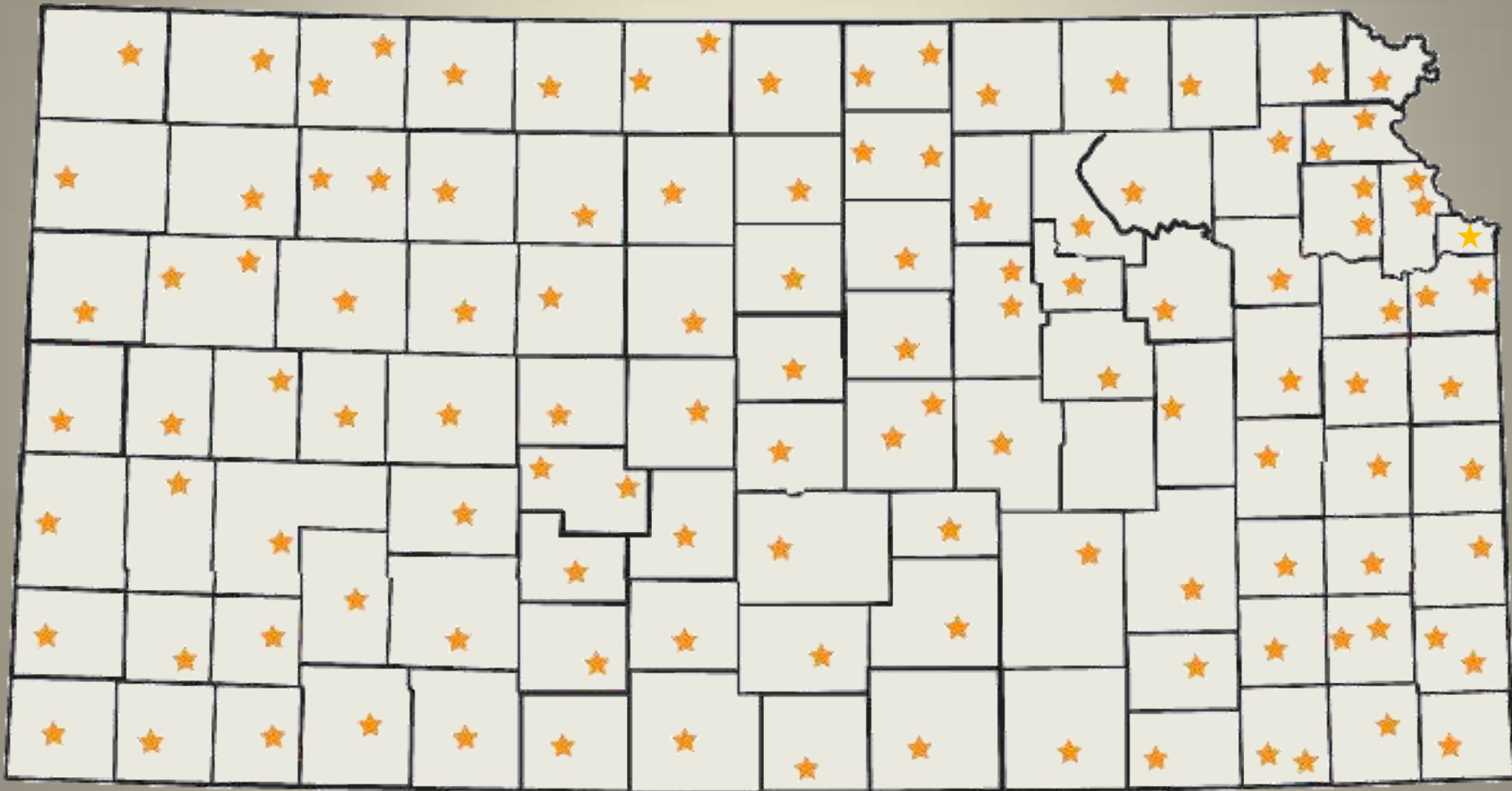


1992



# Municipal Solid Waste Management

## Subtitle D Leads to Many Closures

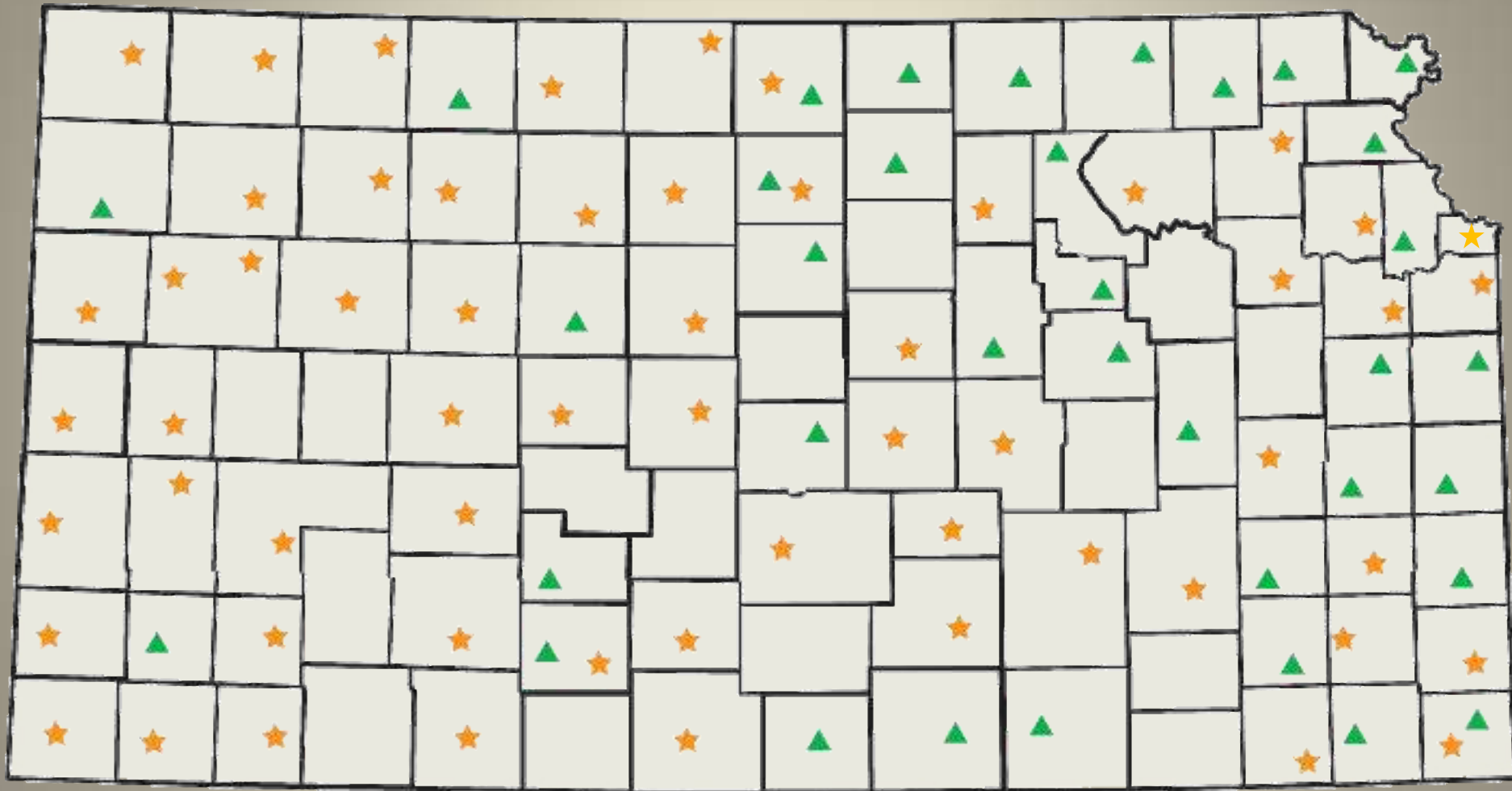


1992

1994/96

# Municipal Solid Waste Management

## First State's DeL Solaris May Operations

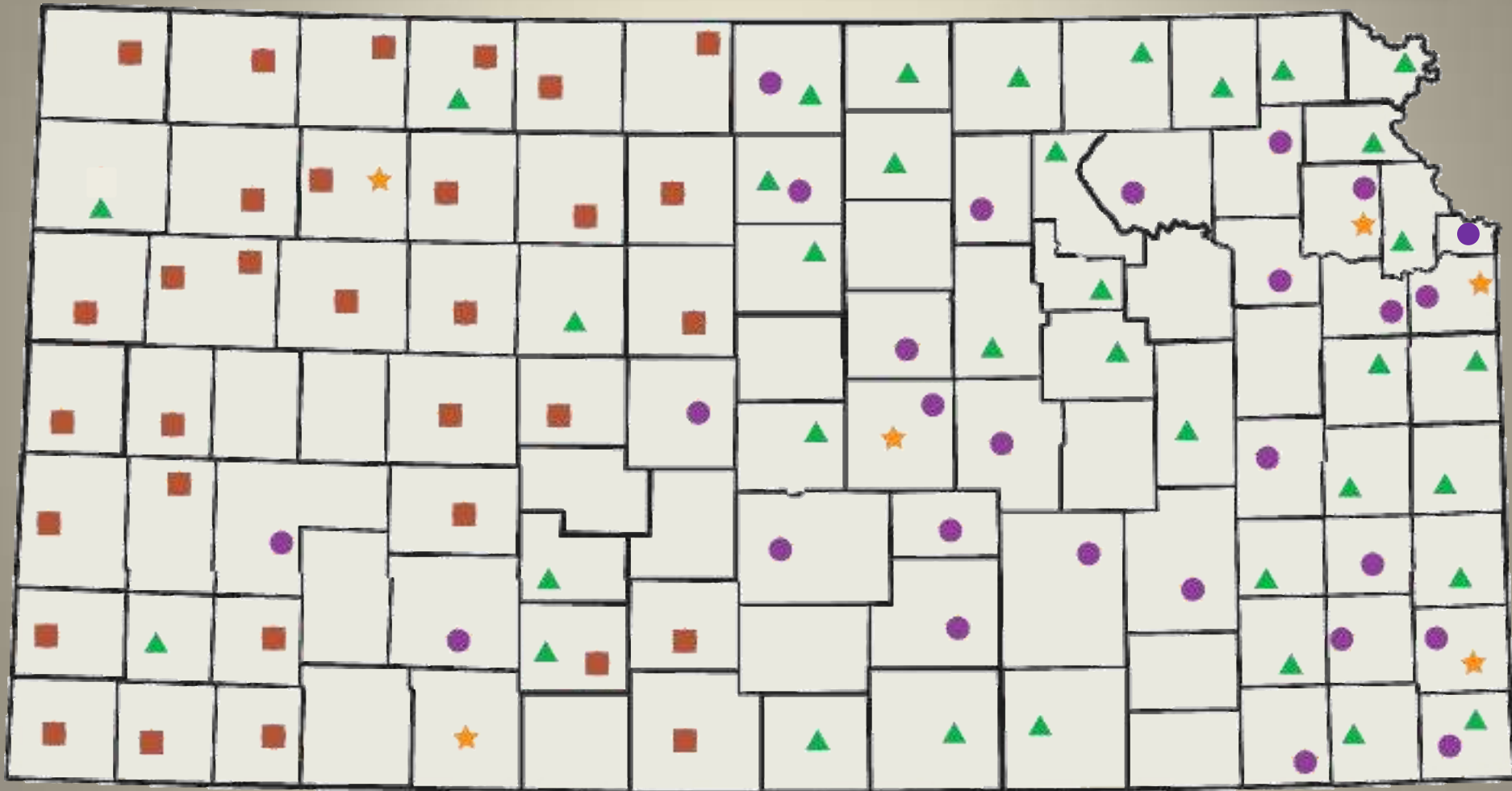


1992

1994/96

# Municipal Solid Waste Management

Subtitle For State and Local Solid Waste Expansion Start Date and SALs



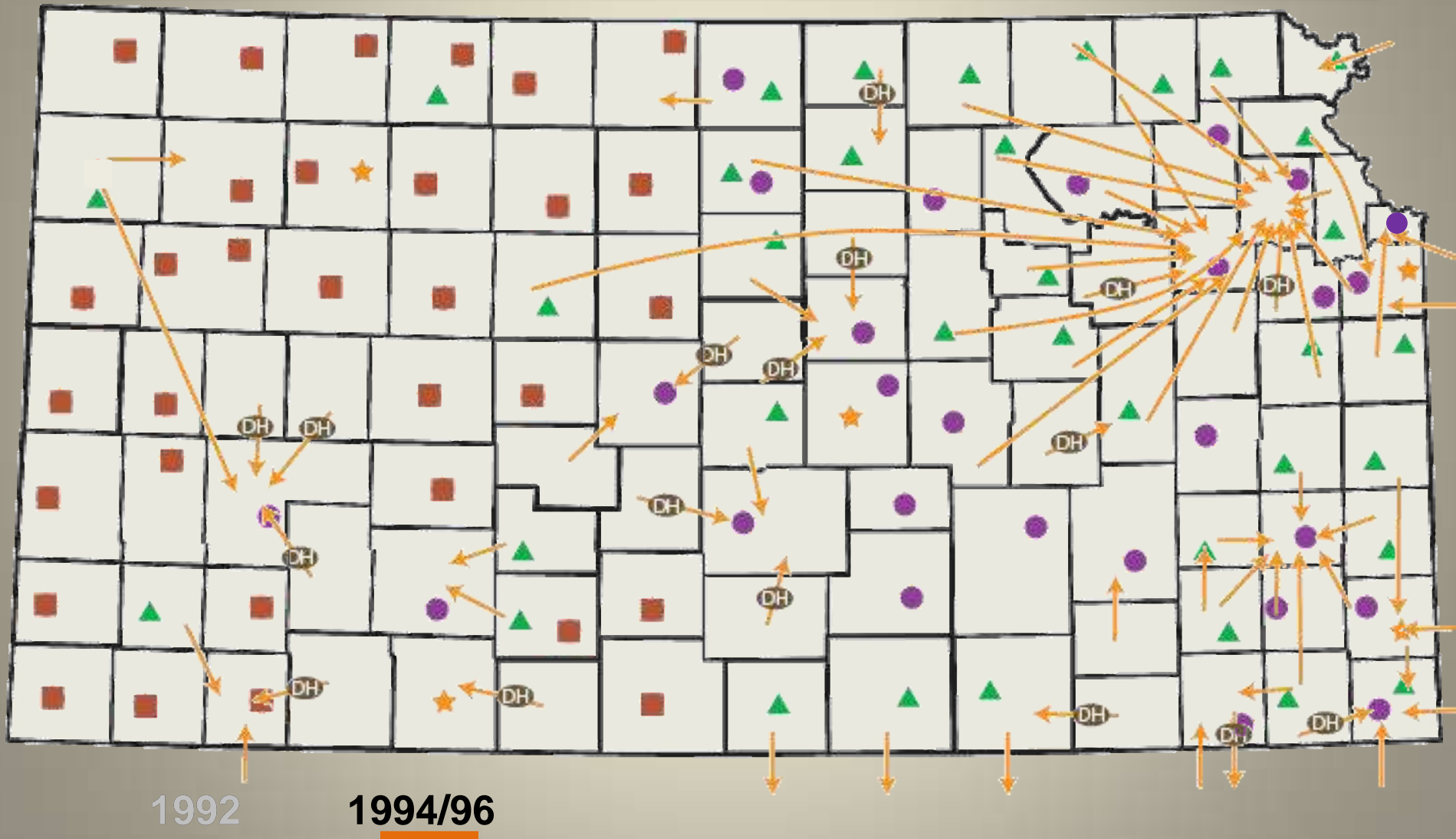
1992

1994/96



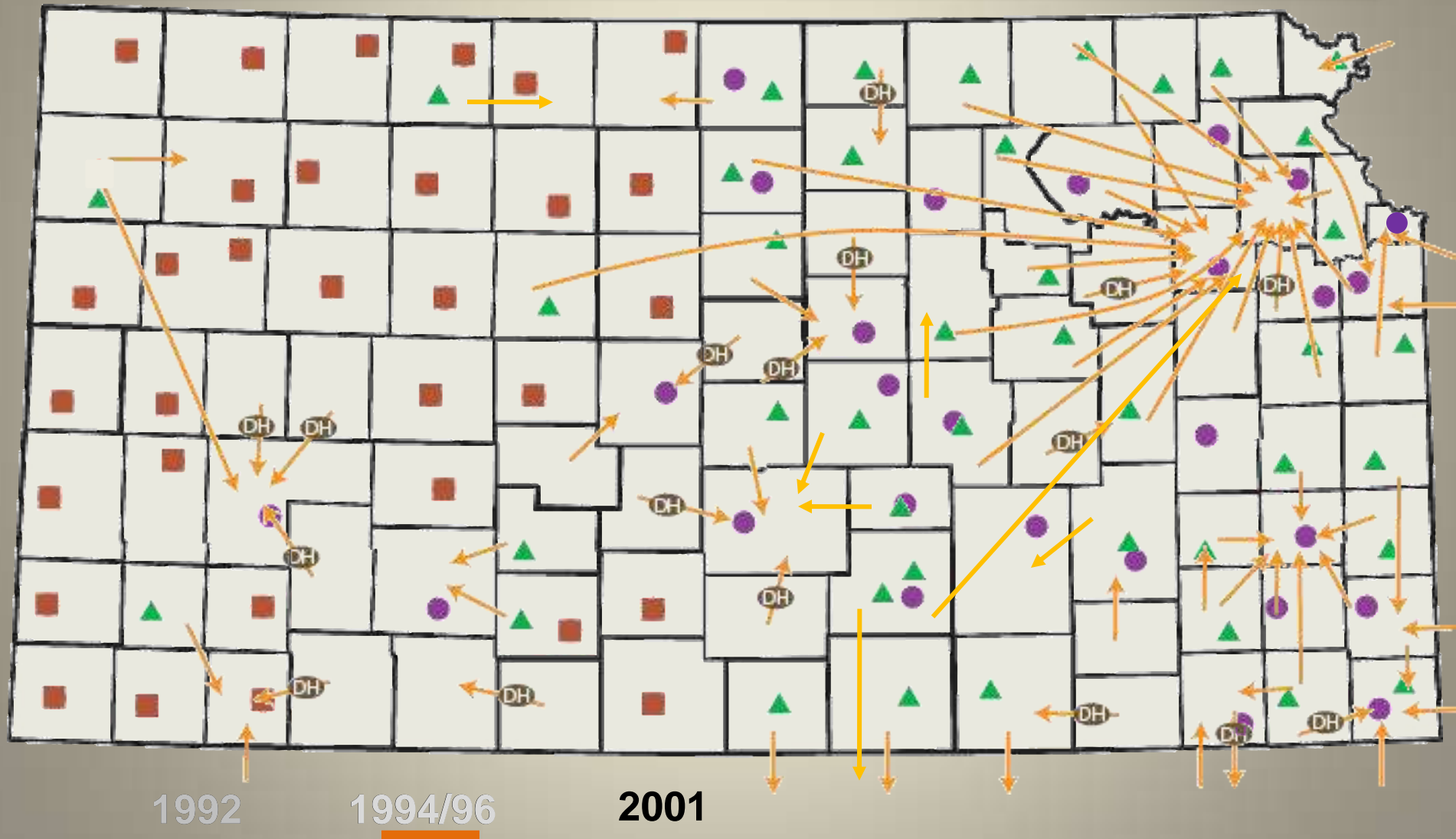
# Municipal Solid Waste Management

## Subtitle D and Vermin-Resistant Landfills & SALs



# Municipal Solid Waste Management

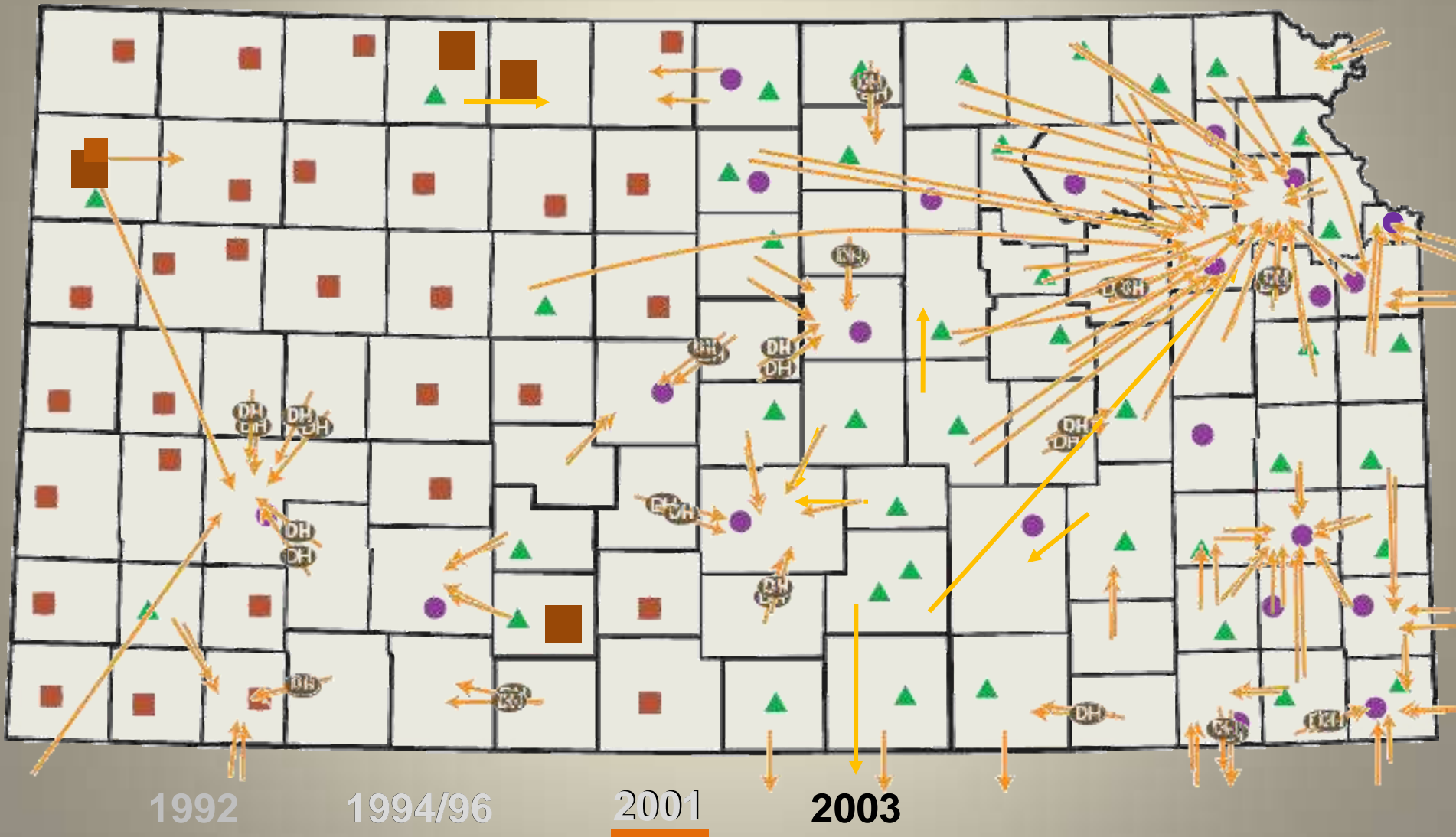
## Vertical Waste Transfers Close





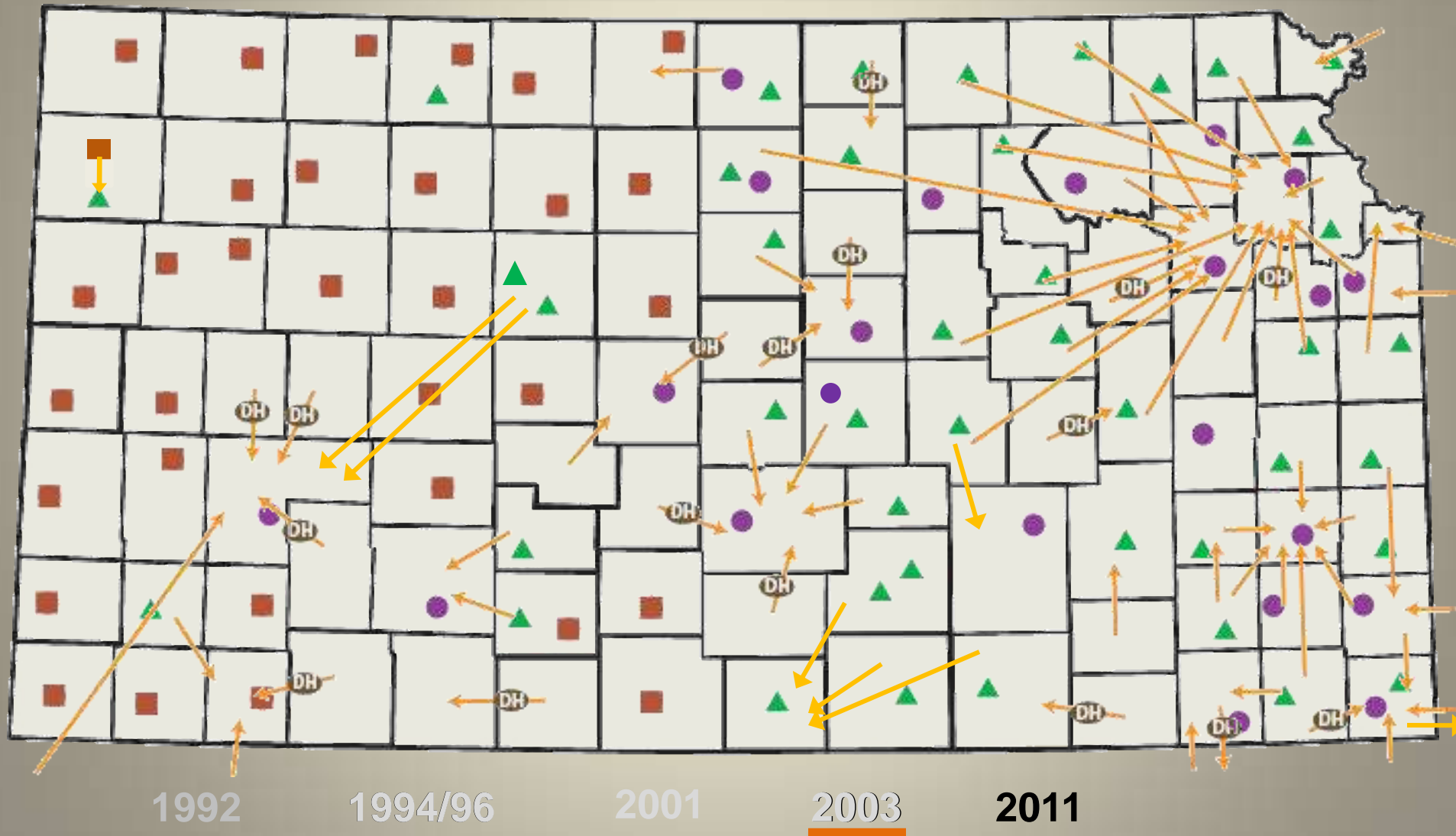
# Municipal Solid Waste Management

## Vertical Expansion from the



# Municipal Solid Waste Management

New Sub D Permits, More Cons Closed, Updated Flows





















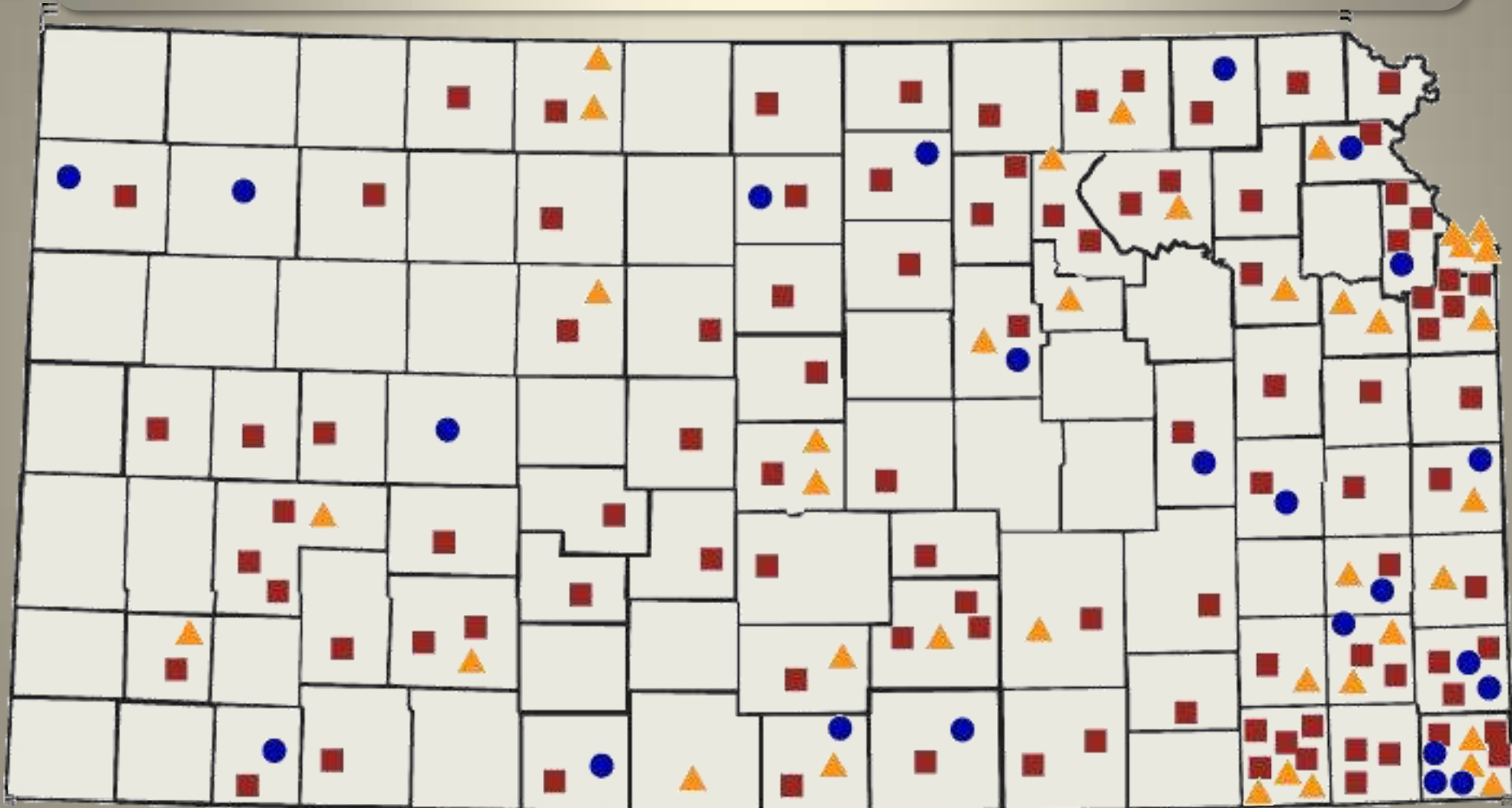








# Other Landfill Types in 2011



- 97 – Construction & Demolition (dropped by about 30)
- 39 – Industrial (drop by a few)
- 23 – Tire Monofills (all new)

## **Other Major Developments Accompany Landfill Closures and Waste Transfers**

- HHW collection expands
- Community composting begins and spreads
- Recycling steadily grows
- Landfill gas recovery takes off

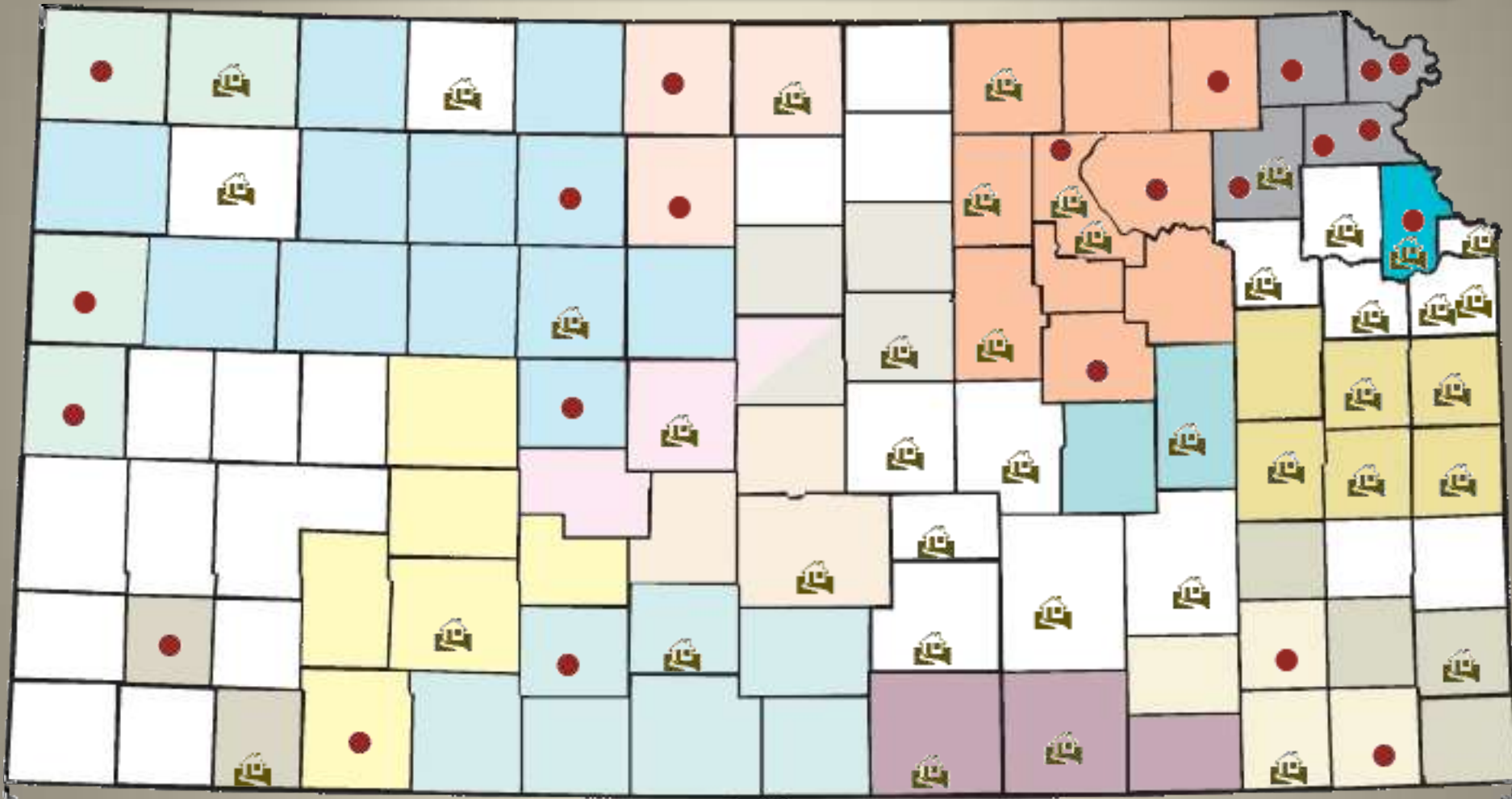
**Why?**

## **Forces at Work that Led to Waste Reduction in Kansas**

- ✓ Every county prepared a new solid waste plan in early 90s
  - ✓ Higher disposal costs resulted from new state and federal regulations and transfers
  - ✓ State Grants (\$25 million in 15 years)
  - ✓ WORKS! and other training
  - ✓ Local government commitment, business development, and public support
-



# HHW Programs Expand



1990

71,000 Users  
5.2 Million pounds in 2010

2011

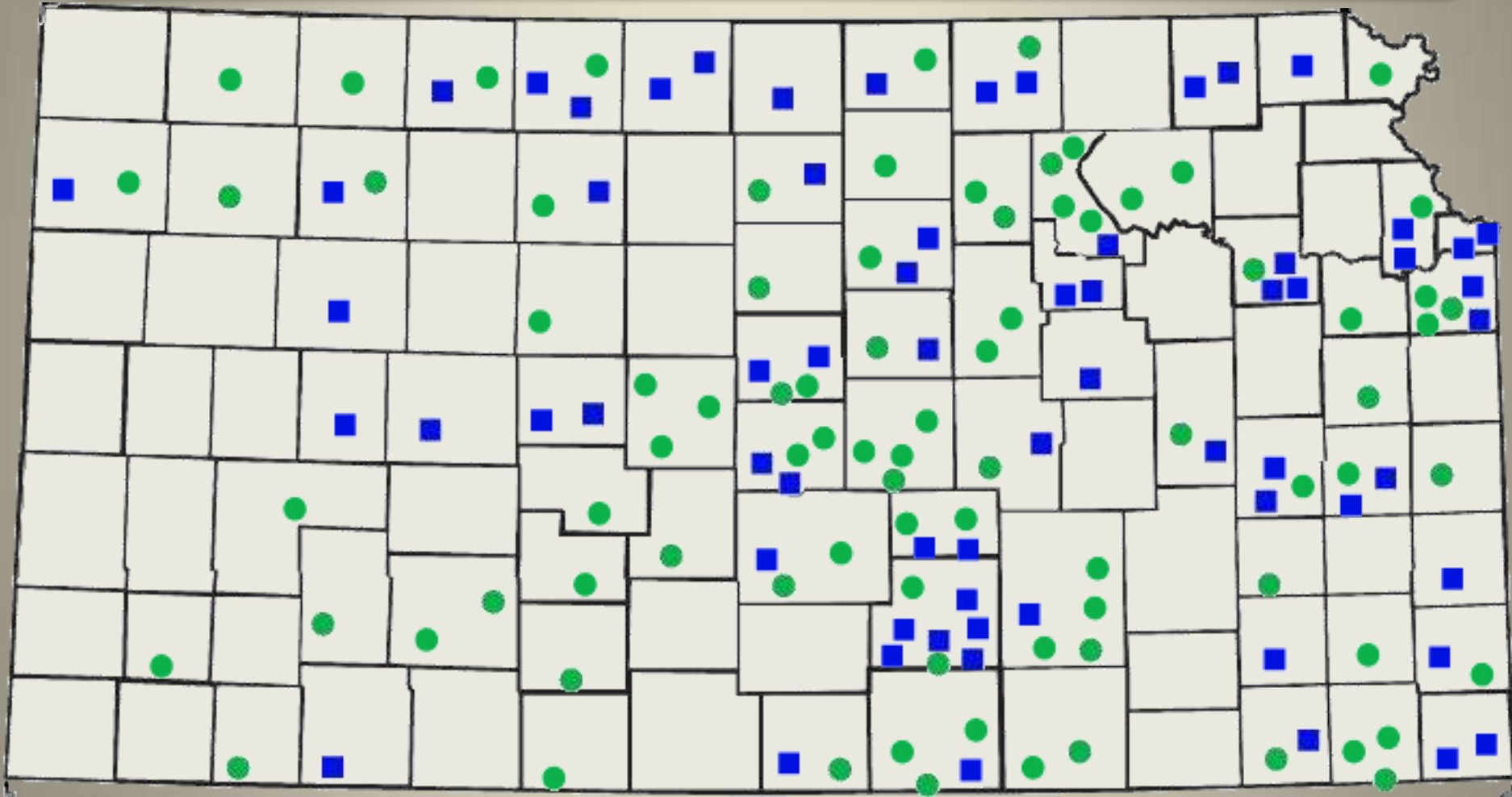








## Composting Takes Off Prompted by WORKS! Conferences



# 2090

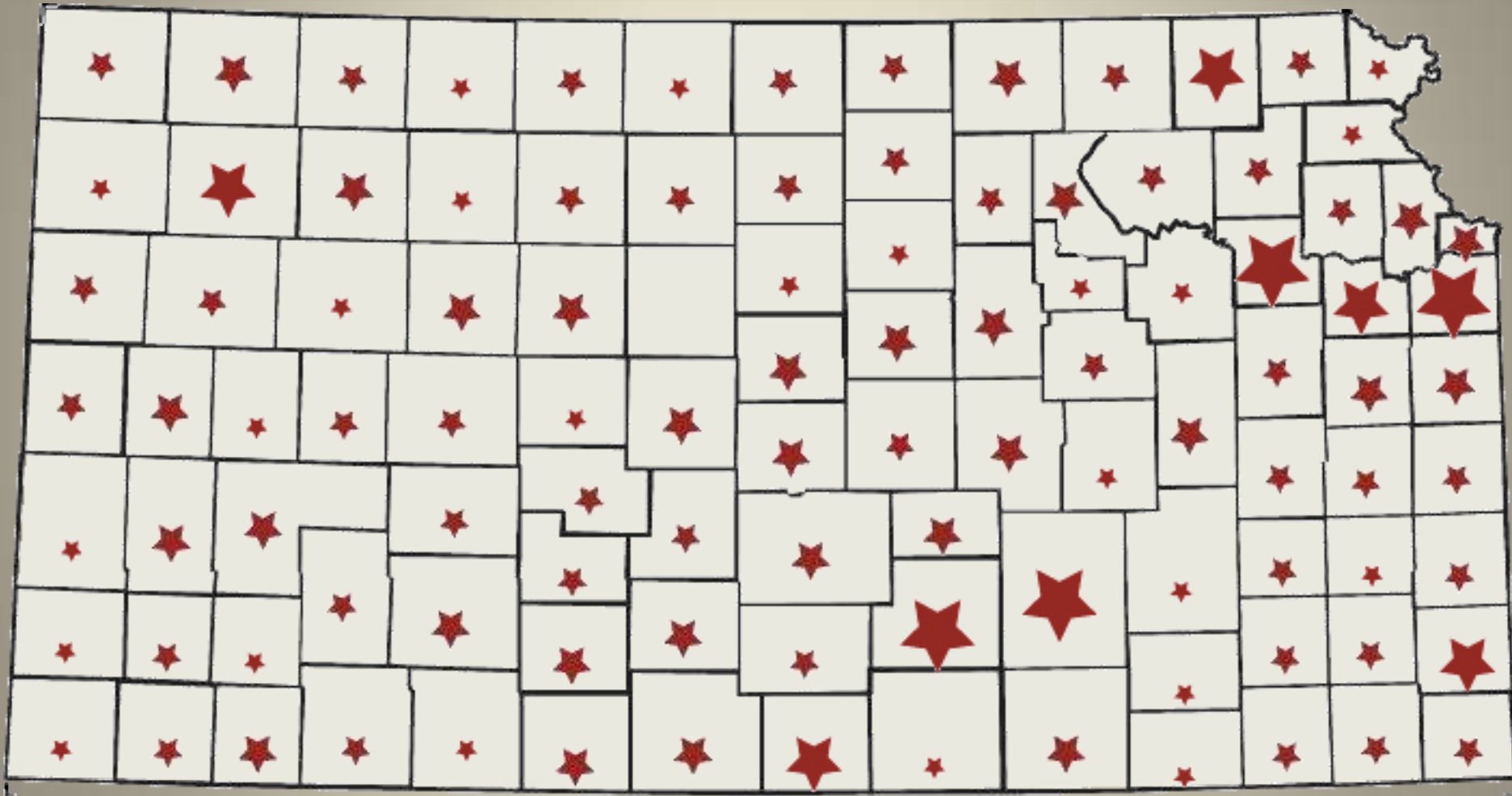
## 84 Permitted Facilities    66 Registered Facilities







# Solid Waste Grants



★ < \$100,000

★ \$100,000-\$250,000

★ \$250,000-\$500,000

★ \$500,000-\$1,000,000

★ > \$1,000,000

# Public Education & Training

Early 1990s . . . . . nothing

County Meetings	1993	→
WORKS!	1995	→
KS Don't Spoil It	1996	→
SWANA/KDHE Operators	1997	→
Get Caught Recycling	2005	→
Green Teams/Schools	2007	→

# **Green Teams Transform Government Agencies, Schools, Businesses**

- ✓ All 101 state agencies
- ✓ 400 schools
- ✓ Local governments
- ✓ Businesses

Team efforts reduce waste, conserve natural resources, and save money!



# A Cleaner Kansas than in 1992

## Illegal Dump Cleanup Program



385 Sites  
\$1.3 million – SW Funds  
83,000 tons

## Waste Tire Pile Cleanup Program



Over 3.7 million tires

# Improved Groundwater Monitoring

## Early 1990s

Random,  
limited  
testing at  
only a few  
landfills

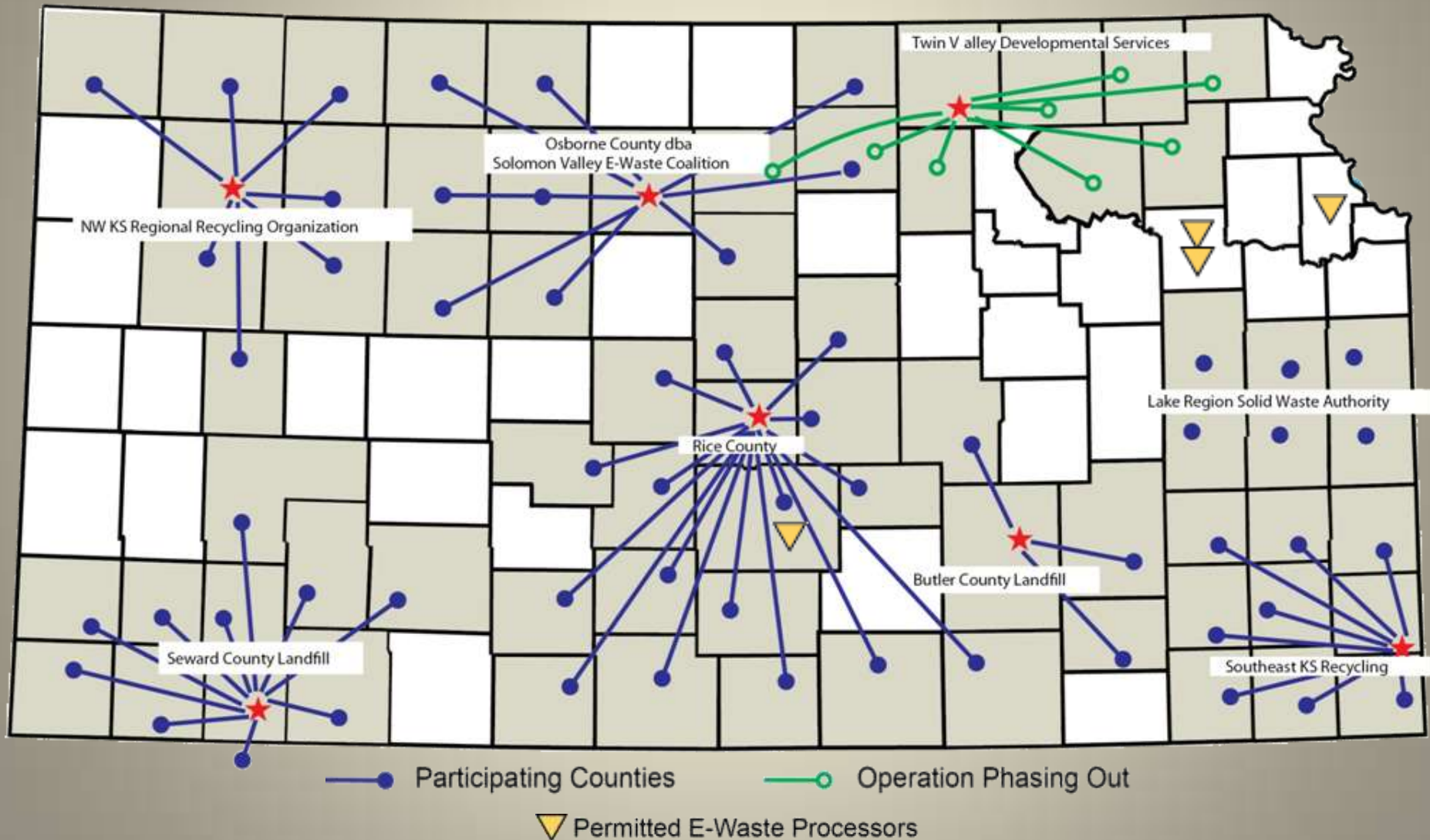


## 2011

Monitoring at all  
MSWs and all  
industrials with  
potential to  
impact  
-Hydrogeological  
investigations  
-- GW monitoring  
plans

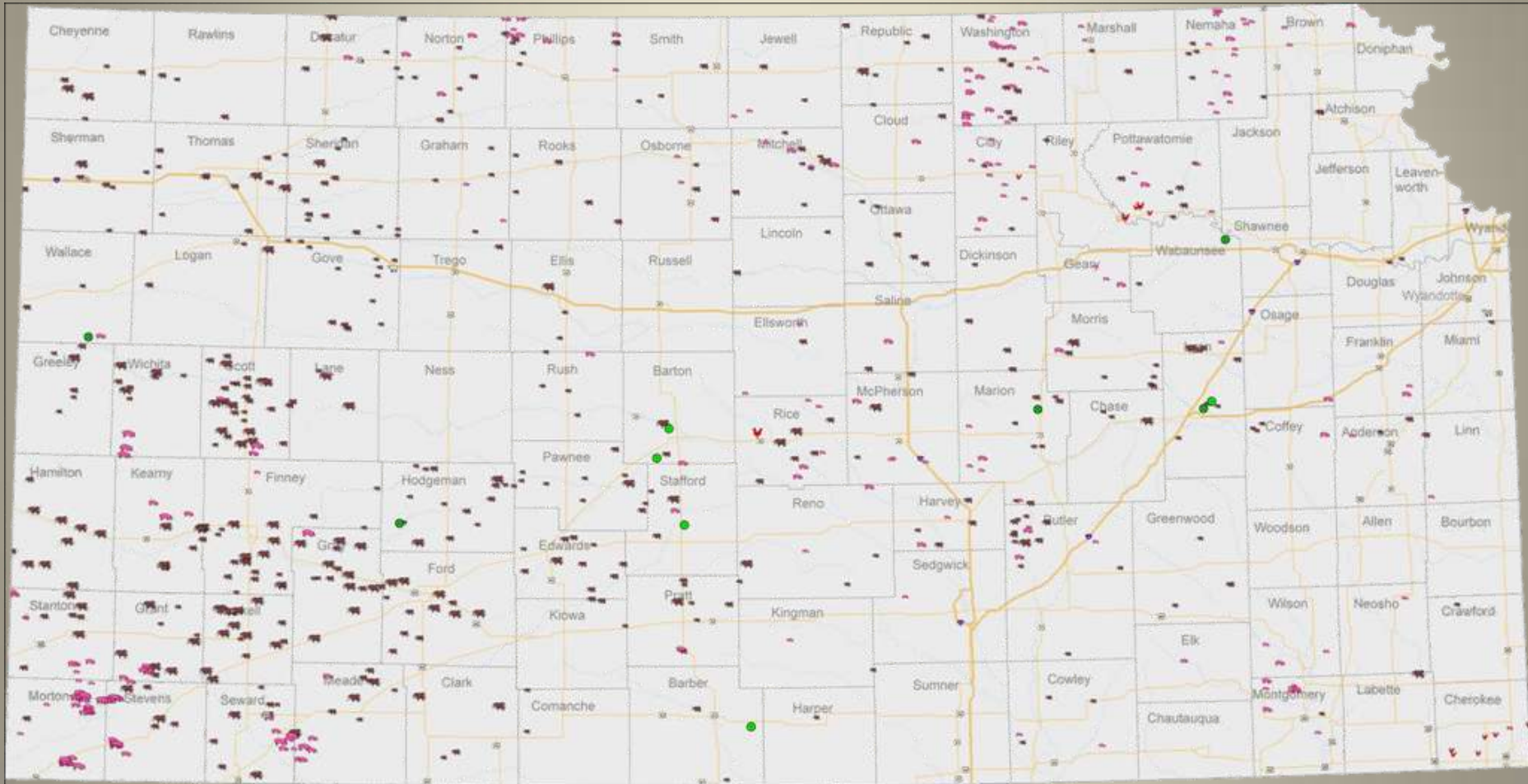
# E-Waste Collection

## *"It Still Has Value"*





# Pre-Selected Carcass Disposal Sites at Confined Animal Feeding Operations



Total Approved - 763

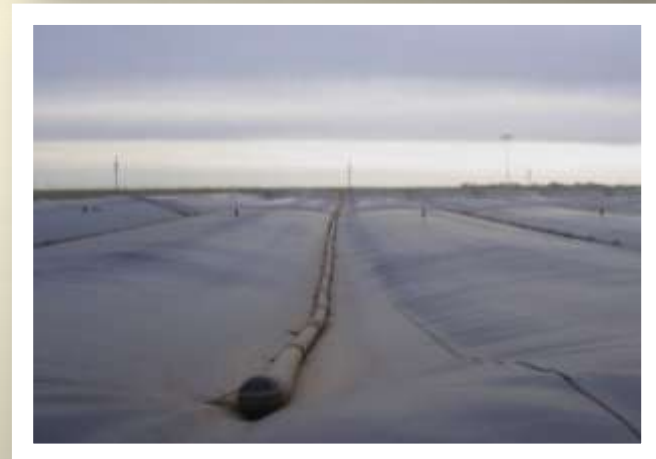
# Energy Recovery from Wastes

Early 1990s      Nothing

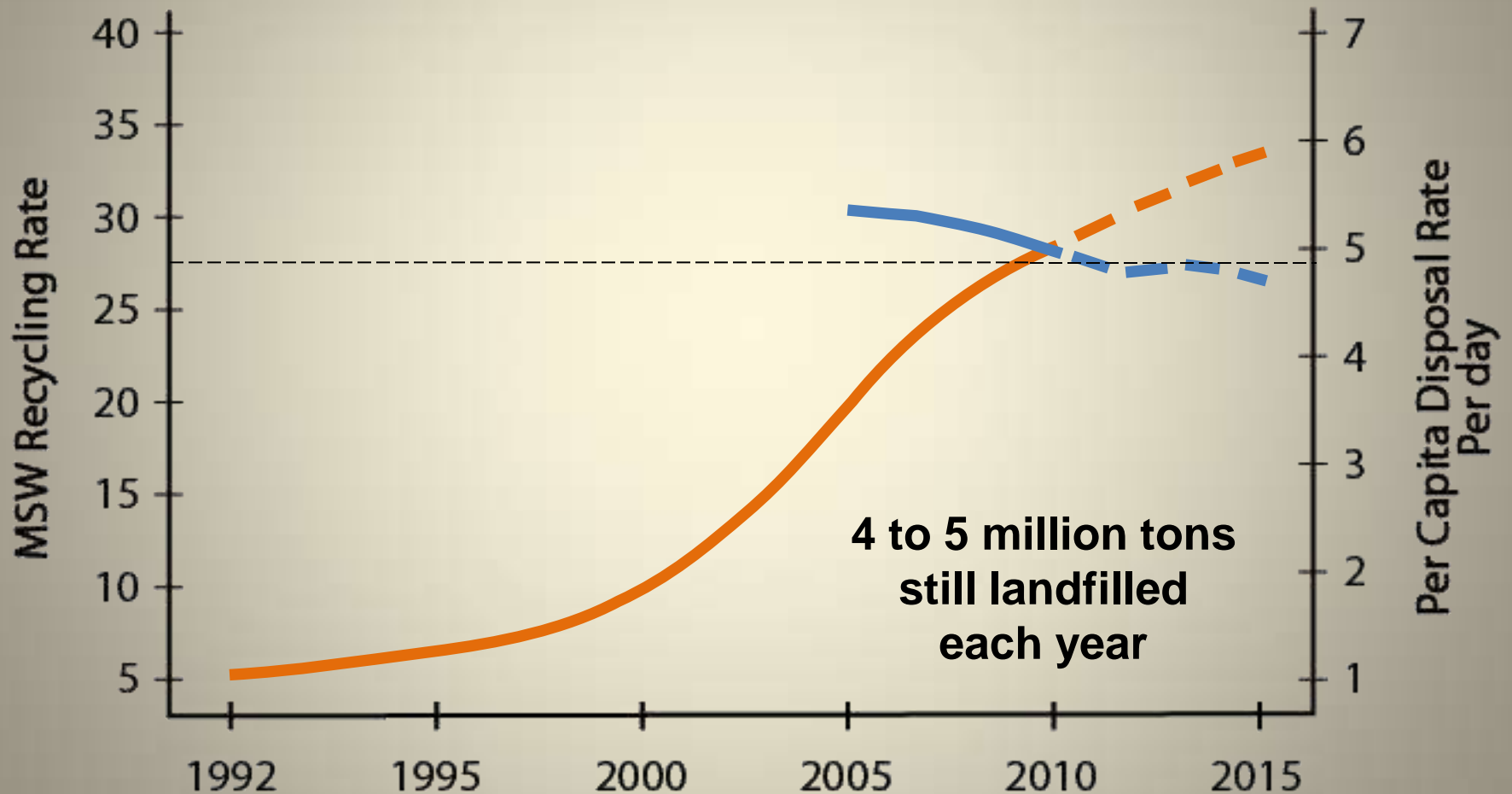
2000-2010      Landfill Gas  
Recovery and  
Utilization

2011 and  
Beyond      Enhanced LFG  
Other Organics

- ✓ Packing plants
- ✓ Dairies
- ✓ Wastewater sludge
- ✓ Sawdust
- ✓ Other



# What About Recycling?





# Waste Reduction in the Future?

- ✓ More curbside (single stream)
- ✓ More composting (some local yard waste disposal bans)
- ✓ Source reduction/Product stewardship
- ✓ The economy (?)

State SW Plan Projections: Per capita disposal down about 1% per year

# 2010 State Plan – Major Goals

Make Kansas Waste Management  
System More Sustainable

8 Goals and 34 Strategies

- ✓ Maintain adequate public education and technical training
- ✓ Maintain compliance and enforcement program
- ✓ Enhance “green team” program
- ✓ Evaluate local waste management systems
- ✓ Facilitate partnerships
- ✓ Secure stable funding for all services
- ✓ Expand and enhance renewable energy projects

# **Can Kansas Waste Management System be Considered Sustainable?**

Factors to Consider:

- Landfill Capacities
- Natural Resource Depletion
- Timeframe
- Cost of Alternative Management  
Methods



## Answer ?

Yes - Current statewide capacity > 25 yrs

But . . .

- Can extend by increasing waste reduction
- Can extend by enhanced waste stabilization
- More waste/energy project coordination
- More public education and awareness
- User pays financing methods needed, not government subsidies

Questions?

Comments?